

SHEET 1 OF 8

**APPLN. NO.: 10/733,407**

# Figure 1

**REPLACEMENT SHEET**

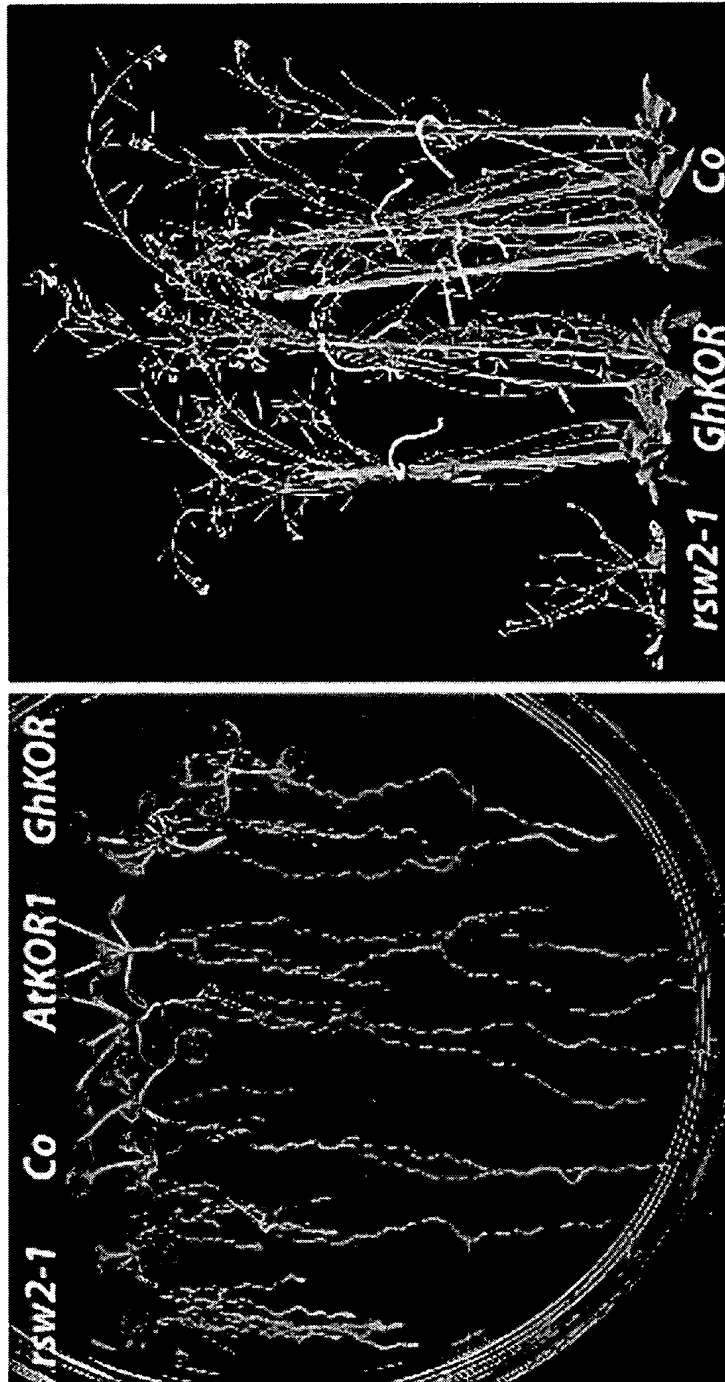
**APPLN. FILING DATE:** DECEMBER 12, 2003

**TITLE:** METHODS AND MEANS FOR MODULATING  
CELLULOSE BIOSYNTHESIS IN FIBER PRODUCING

**INVENTOR(S):** JOANNE ELIZABETH BURN ET AL.

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**Figure 2**

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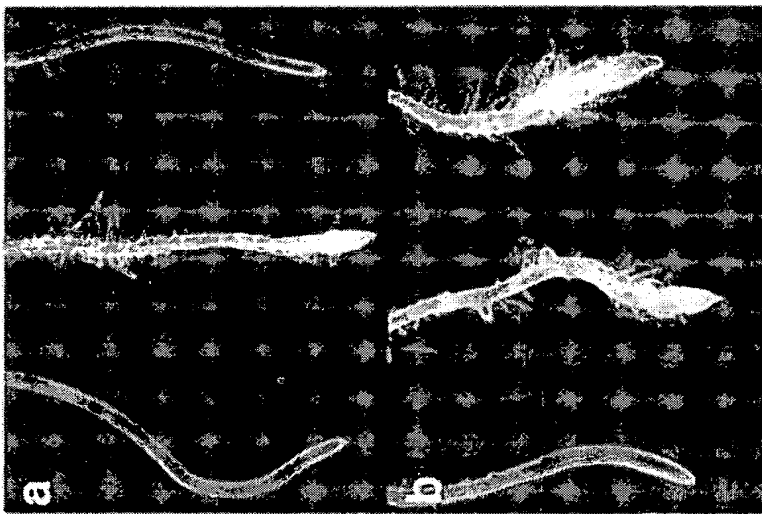
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**Figure 3**

Arabidopsis	1	-----MRS--LLFVLSLICFCQATLSWKKKEEFSCDTPFCRRAR--SATPGA--CSLIVGVSTIDGDAVKALPKAPNQGDQIKPILLSVYKDGIVELKIDEDHSHIN
potato	1	-----MRAPLLLPVLLLLLVFTSAYSKKEEFNCDTPFCRRAR--SRKPGS--CNLRVADVSTSDGDIJAKVYPKPEENPSEQNKPKPLVLTISVYQGVKRVKIDEDQONEN
mouse	1	MAAIAAARRRRRLSLVLAVLGVCIGITLAVDRSNFKTCDPSFCRRAR--SIRPGSPYRALITLQGPDAITVLIHEVTK-----VLWIEQGLQKQNMTRIDEB-----LE
yeast	1	-----[MRYHGICWFIQAAIIFAIPTGSCOGAFRHFDTAEQDGEFARRNDLAKFQKLNWNGLFOLNSISYNSGWSVGFEOQS--ENGENQHLFPFISIFLKNDDVVFQFQDE-----
Arabidopsis	104	PRKPRQVDPVVVSFEERKIMLOKVAE--TISGDTSSSSVVVSDGFEAVRUPP--FEVYVP-----SKSGDRRRRVVS
potato	106	PRKPRFEVPEVIEDFLNTKLMITRVKEE--CIDGVSSSSSVFVSDGVEGVURUPP--FEVYVP-----E-SGSGKRVLS
mouse	108	PRPRPRVDPVLAAPPARTLSGGRDDNSVELTVAEGPYKIILTAQFRLDRLERSLLSNNARGLMAFHQRAPRVFSDKVSALGSLVMDKIKNLFROESKDPAGNGAQPEATP
yeast	108	---[SLEGTVEYEXHILTKREDASTELGFNERRAEVYGRDAHLEQSTSTSLIRYSGHGRFTIVTFES-----PFKEFEFORGEPOVY
Arabidopsis	176	LRSHGDFDFPDLG-----RRTGDNWEERKERTHDSRSGPQISIGDVSFYDSFVAGIPEHATSPALRFTKPGQVEE--SEPYRLFNLDVFEYDHESPGLYSGIPFWVSHKSGKSTS
potato	177	LRNCGDFDFEOLR-----EKEGGDWEERKERSHTDRPYGCSISFDVSFYGADFVAGIPEHATSPALRFTKPGQVEE--SEPYRLFNLDVFEYDHESPGLYSGIPFWVSHKSGKSTS
mouse	228	GDGDKPEETOEKA-----EEDPGAWEBTEKTHSDSRPYGPTSVGLDESIPGMEHVAGIPEHADSLRKYVTEG-----GEPYRLYNLDVFEYELNNPMALYSGVPLLAHSHFHR--DL
yeast	189	LRERHILMEIYRPRKSSRTPEOANGWMDTEFDNFHDSRPGKBSVGLDIKRFVDYGVNVXVGPPEHTSSLSLRENNSDAG--YTEPYRLYNLDVFEYDHESPGLYSGIPFWVSHKSGKSTS
Arabidopsis	288	GFELWNAEMCIDVLANGWDAESG-----ISLPSSSHRIDTTHMSAGIVDTFEVGPPEKDVVKQASVGTSTAMPQLEATCQHOCRWNYDEEDVAQVDSKFEDEHDIPYDVWLWLDIE
potato	290	GFELWNAEMCIDVLANGWNSDES-----SKMLPDKKHRIIDTTHMSAGIVDTFEVGPPEKDVVKQASVGTSTAMPQLEATCQHOCRWNYDEEDVAQVDSKFEDEHDIPYDVWLWLDIE
mouse	334	GFELWNAEMTWDJSSNTAGTKLFGKMLDYLOGSETPQTDIKRMSGGIIVFELMLGGSVDFVQFQASLTGTQALPPLESGLHQCRWNYRDEADVLEVOGQFDDHNNPCDVWLWLDIE
yeast	307	AVWNSAAATWIDVEKESGP-----SPHSQSTSTTHYSESGLTLELHELGEKASDVYES[SALVGRPTLPLEFLESIG[HOCRWNYSEEDLVNVDKAFEDVDMPYDHLWLWLDIE
Arabidopsis	402	HPGKRYFTWBSVLEPHEBEOKLAARGRKRWITIVDPHIRDDSI[FHRTATQNGYXVYKDSKQ--EDGWCWPGSSSYHMLSPELRKNWGRFSKNTVGSSTSLYIWNDDMNEPSVFN
potato	406	HPDGKRYFTWDRVLEPNEEMOKLAARGRHWITIVDPHIRKRESHHPKEALEKGYVYKDATKQ--EDGWCWPGSSSYHMLSPELRKNWGRFSKNTVGSSTSLYIWNDDMNEPSVFN
mouse	454	HADGRYFTWDPTRPEOPLNLEHLASRRRLVAVDPHIVSGRKHRLRNHLGYTRDSED--EGWCWPGSSSYHMLSPELRKNWGRFSKNTVGSSTSLYIWNDDMNEPSVFN
yeast	414	YASKRKYFTWDKATEPNEKAMLEKIDSKSRKLIIVLDPHIRNDPNIVSRELIDYNVAKADKSVENNE[DEWPGNSVAVVEFNPEAQAMWCSLFEEDRE--SDKNLWIWNDDMNEPSVFN
Arabidopsis	521	GPEVTPRDLAHVGVGVEHREVNAGYFYFWATSDGLWMBEEDKDRPEVLSPAI[FPGTORYGAIWGTGNTAEWEHLRVSIIPMILTLGLTGIT[ESGADIGGFGFNGPPELLVRYVQVGAAY
potato	525	GPEVTPRDLAHVGVGVEHREHNSKGYFYFWGTSDGLRPGDQDRPEVLSPAI[FPGTORYGAIWGTGNTAEWEHLRVSVPMVLTLISIGIVSGADVGFGFNGPPELLVRYVQVGAAY
mouse	573	GPEVTLKDAVHYGVGWEHRDIHNIYGLVYFWATADGLI[PSGIERPEVLSRAFE[SGSORFGAVGTGNTAEWDHLKISIPMCLSLALYGLS[CGADVGGFKPKPPELLVRYWYOMGAAY
yeast	533	GPETS[HRDLAHVGVGWEHRDIHNIYGHKICNGTYNGLIKEGEGAVRPELITRSEFAGT[SALANWNIIGT[TMTTWEHURCSITVTLINGISGMAESGADVAGTFCGNDAELEVRWYETAHEY
Arabidopsis	641	PFPRHAHHTKREPEWLFGERNT[ELMRDLAHTRYTLIPFYFTLFRBNVTGPVVRPLWMEFEODEATESDEAFVUG--SGLLVQGYTKGTQOASVYLPQ--KESYDIIRNGKTYVCGK
potato	645	PFPRHAHHTKREPEWLFGERNT[ELMRDLAHTRYTLIPFYFTLFRBNVTGPVVRPLWMEFEODEATESDEAFVUG--SGLLVQGYTKGTQOASVYLPQ--KESYDIIRNGKTYVCGK
mouse	693	PFPRHAHHTKREPEWLFGERNT[ELMRDLAHTRYTLIPFYFTLFRBNVTGPVVRPLWMEFEODEATESDEAFVUG--SGLLVQGYTKGTQOASVYLPQ--KESYDIIRNGKTYVCGK
yeast	653	PFPRHAHHTKREPEWLFGERNT[ELMRDLAHTRYTLIPFYFTLFRBNVTGPVVRPLWMEFEODEATESDEAFVUG--SGLLVQGYTKGTQOASVYLPQ--KESYDIIRNGKTYVCGK
Arabidopsis	759	THK[DAPESTIPAFQACTIIPKRDRLRRSSQNDPXTLVVALNSS--QPEGELYIDDGKSEFFR--EGSTHREVRVSKGVLPSTN-----LAPPEARLSSQCLIRIILGHSSGP
potato	763	THKYVESEDSIPFORAGTIIPKRDRLRRSSTQENDPXTLVVALNSS--KAECELYIDDGKSEFFR--QCATILKWAYIFQMPRLQ-----LA--VTHFPSECTVERIILIGLSPGA
mouse	812	ILYI[VTLSIPVEORGTIVPRWVRSSDCKDDPITL[FVALSPQ--GTAQGLFLDDGHTN[OTRHEILLRRESFGSTVYSSS-----ADG--KGHLETPTWIERWING--AK
yeast	772	HQVWPAPLGVVPLRGGNIITRIRIRRAELIRNDPPTLITAVSISKNSGSHGYLDDGVTFENYR--KGEYLIRHESFENGILITMKDHSNPPVSEKYSSQKHUKVERINTIY[-----E
Arabidopsis	871	KSALVEPLNOKAEIEMGPLRMGGLVASGKTKVLTIRKPGVVRDQDWTVKIL
potato	873	KTALLEPGNKKVIEELGPLFIQGNRGS-----VPTIRKNVRITDDWSIQIL
mouse	992	PAVVLQTKGSPESRLS--FOHDPETS-----VLIRKPGVWASDWSIHR
yeast	887	QTRKSIKIRKII[SEVTEWD[SVDDSG-----CERNPOLIVY-----

**Figure 4**

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	3	•	4	MHR	•	5	•	6	
Arabidopsis	579	CWGPDSLRK	YKRLGRLK	NEIMDV	DESPRCE	VAAH	ST	PARCTED	KLLELQQLKXLMQDKP-----QNHDEL
Rice	549	CWGPDSLRK	YKRLGRLK	NEIMDV	DESPRCE	VAAH	ST	PARCTED	KLLELQQLKXLMQDKP-----QNHDEL
Mouse	464	CWGPDSLRK	YKRLGRLK	NEIMDV	DESPRCE	VAAH	ST	PARCTED	KLLELQQLKXLMQDKP-----QNHDEL
Yeast	431	CWGPDSLRK	YKRLGRLK	NEIMDV	DESPRCE	VAAH	ST	PARCTED	KLLELQQLKXLMQDKP-----QNHDEL

## Figure 5

Substrate recognition

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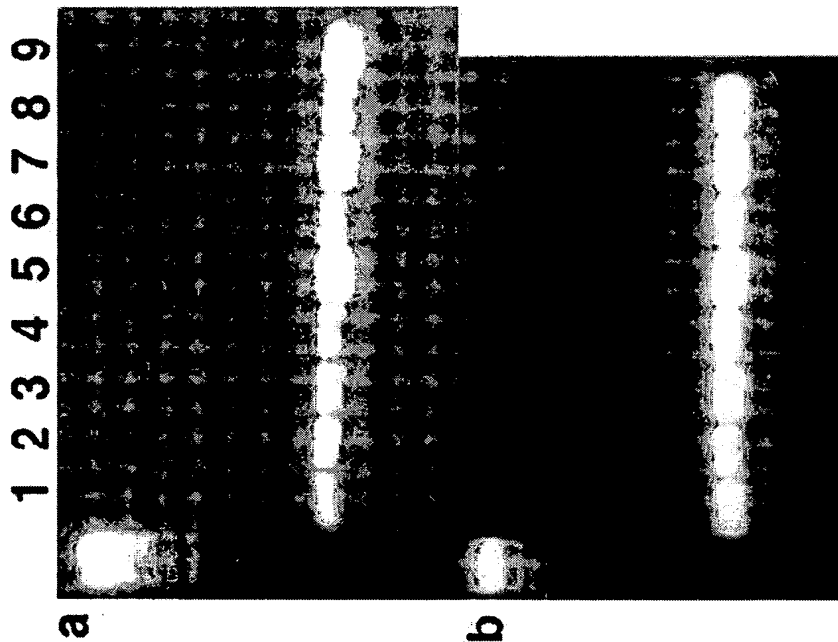
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**Figure 6**

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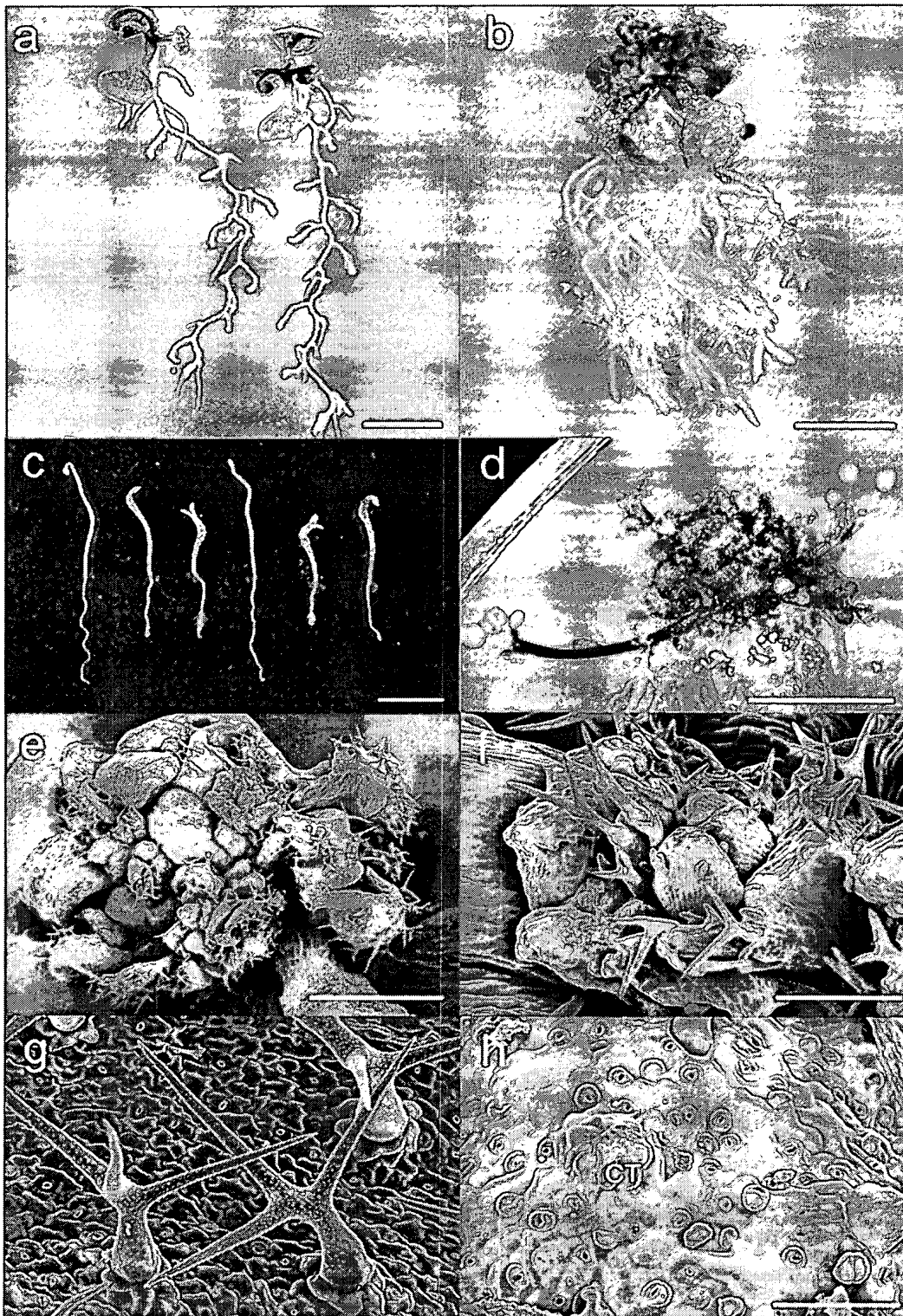


Figure 7

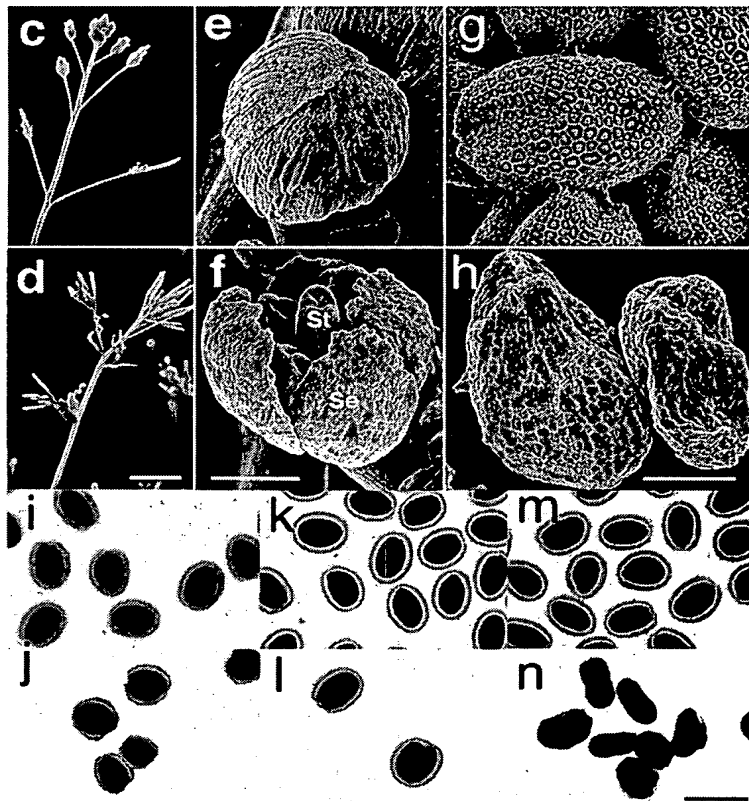
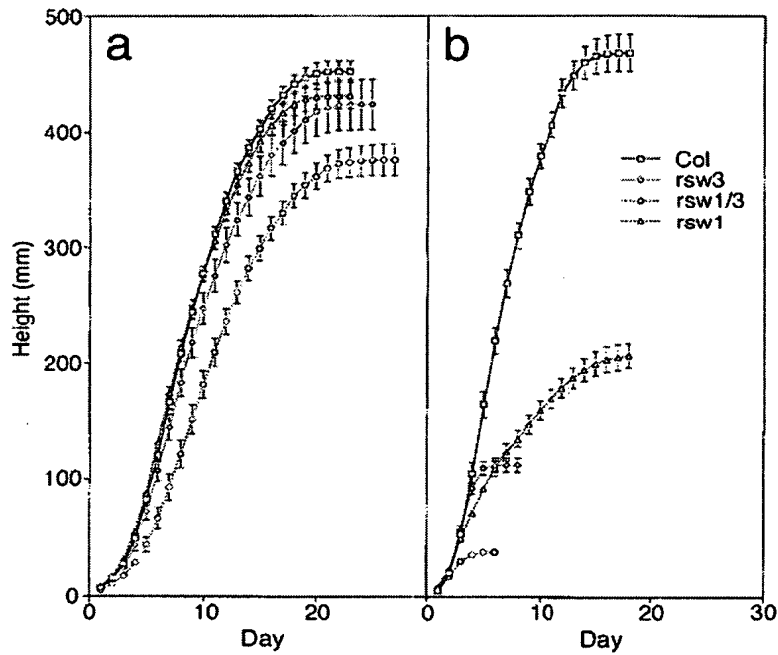


Figure 8